Hatchery Highlights

U.S. Fish & Wildlife Service
Warm Springs NFH
News and Updates

October – December 2019

Aquatic At-Risk Species Recovery:

Freshwater Mussels Research

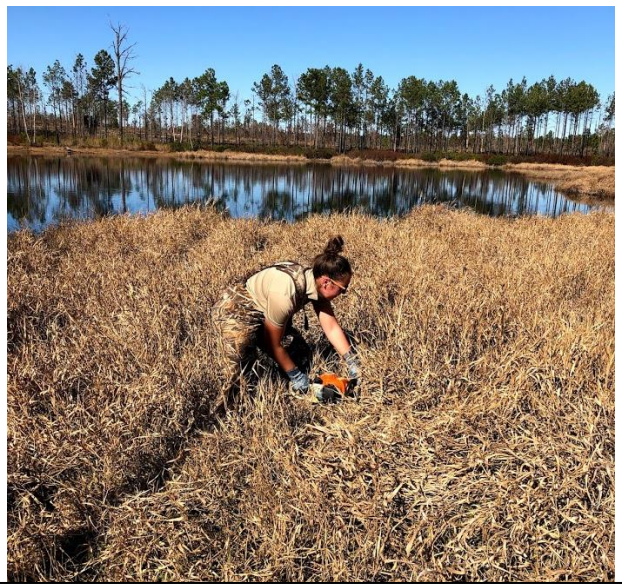
Biologist Jessica Radich compiled results from 2019 mussel propagation work at Warm Springs and submitted a 2019 mussel propagation report to partners including Panama City Field Office (PCFO) on October 29, 2019.

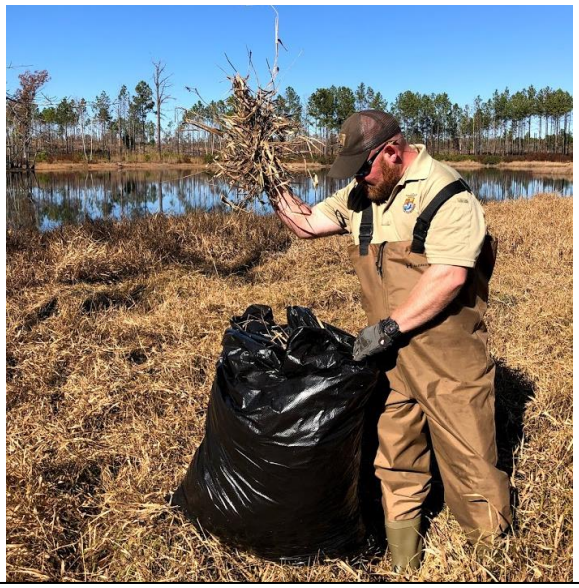
Mussel broodstock for 2020 work held at Warm Springs were cared for on a daily basis. They are fed twice daily with two concentrated algae diets formulated for mussels and water supply was manipulated to mimic winter river temperatures. Host fish are also cultured for propagation work in 2020.

We purchased a number of ONSET submersible temperature data loggers with replaceable batteries for use with station priority programs such as our mussel propagation work. This equipment will aid in gathering additional data on species life history and tuning propagation techniques.

Gopher Frogs

Warm Springs NFH works in partnership with the University of Georgia (UGA), Zoo Atlanta, Georgia Department of Natural Resources (GADNR), Amphibian Foundation Inc., and others to expand conservation efforts for gopher frogs within their historical native range. Warm Springs NFH staff Carlos Echevarria, Jessica Radich and Josh Simmons met with partners during the November 19, 2019 meeting at the Amphibian Foundation Inc. facilities in Atlanta, GA.





Jessica Radich (left) cuts maidencane while Josh Simmons (right) bags the trimmings to bring back for culture work. Credit: Jessica Radich and Josh Simmons / USFWS

WSNFH biologists Jessica Radich and Josh Simmons harvested dried stems of maidencane, December 2019. This plant species is a prime detritus source within known gopher frog habitat. We place the maidencane in culture tanks utilized to rear gopher frogs throughout the tadpole life stage.

Gopher Tortoise

Credit: Jessica Radich/USFWS

Gopherus polyphemus is a federally listed "candidate species" for populations east of the Mobile and Tombigbee Rivers; they are also state listed by Georgia as "threatened." Gopher tortoises are an indicator of longleaf pine ecosystem health; their burrows provide vital habitat and shelter to other imperiled species such as gopher frogs and indigo snakes.

The four tortoises hatched at Warm Springs last summer are doing well. Daily care involves providing vitamin-rich pellets, mixed greens, fresh water, planted rye grass, and heat lamps to maintain optimum temperatures in their habitat enclosure within the Reptile and Amphibian Culture Building. WSNFH hopes to continue cooperative efforts with partners conserving gopher tortoises into the future.

Shortnose sturgeon

Endangered shortnose sturgeon historically ranged along Atlantic Basin Rivers southward from Saint Johns River in FL, north into Canada. WSNFH maintains twenty-two individuals from several year classes for possible future work with the species. Staff monitored culture conditions for the fish daily and fed them a commercial diet specially formulated for sturgeon.

Pollinator and Native Plants Habitat Project

Habitat managed for pollinators on station include a 1.7-acre pond bottom seeded over several previous years with native southeastern plant species beneficial to pollinators. As the plants became dormant this fall, staff mowed the area, ahead of additional reseeding work next year. We will try alternative methods of controlling growth of grass species this coming year, which tends to crowd out desired plant species.

We are head starting a few native Venus Flytraps for eventual inclusion into the carnivorous plant display located on station.

Credit: Jessica Radich/USFWS

Sicklefin Redhorse

Warm Springs NFH staff work in cooperation with state, private, and tribal partners to meet conservation goals established by the Sicklefin Redhorse Conservation Committee. Sicklefin Redhorse are a candidate species whose range is limited to watersheds of the Hiwassee and Little Tennessee River. We continue prioritizing conservation efforts within the Oconaluftee River, North Carolina in partnership with the Eastern Band of Cherokee Nation.

WSNFH maintains sicklefin redhorse from several year classes for use with a pending diet study and evaluation of alternative marking techniques. A diet study involving the 2019-year class sicklefin redhorse (SFRH) is scheduled to begin in January lasting three months. We suspect a dietary deficiency in the prepared feed rations contributes to development of skeletal deformities observed during the first year of culture. To that end, the June sucker, Rio Grande silvery minnow, and an Abernethy formulated diet are different specialty feeds we will evaluate through the course of the feed trial. Approximately 800 sicklefin are divided among nine 2 ft. diameter tanks for this trial. An additional 1,000 sicklefin were moved into a single 6 ft. diameter production tank while being fed the June sucker diet.

Ian Paige summarized FY 2019 production information for use in the upcoming Georgia AFS chapter meeting and at the annual conservation committee meeting this winter.

Staff sampled the 2019 SFRH November 4th, collecting length and weight data while feeding them up to three times per day. Approximately 1,800-sicklefin redhorse averaging 1.75 inches in length were on hand in November.

The 2018 year class SFRH are averaging over 4.0 inches and are on a combination diets that includes supplemental spirulina and frozen blood worms.

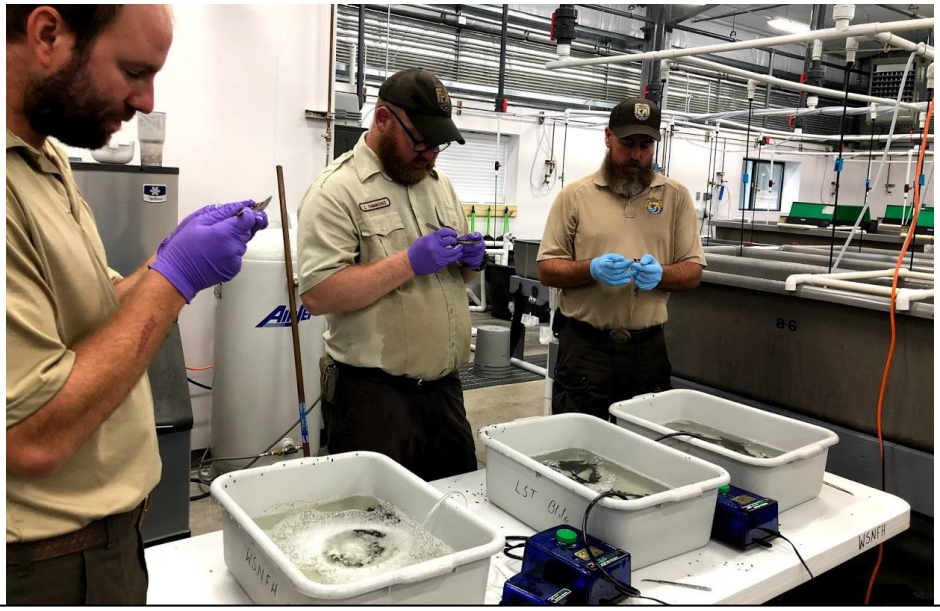
Aquatic Species Restoration Programs:

Gulf Coast Striped Bass Restoration

Staff managed the 7.2 surface acres of production ponds utilized for striped bass production. We drained the ponds and harvested forage fish that were double cropped following the harvest of striped bass fingerlings earlier in the year. Staff then disconnected air diffusers from the aeration lines, pressure washed and stored them ahead of freezing winter weather. They also seeded exposed sections of pond bottoms with rye grass at a rate of 75 lbs. per acre in December. The rye grass functions to prevent soil erosion during the winter months and is an organic fertilizer once ponds are filled during spring 2020.

Lake Sturgeon Restoration

Warm Springs NFH participates with other agency partners and FWS hatcheries in a long-standing regional effort to restore lake sturgeon in the southern watersheds of its historical range. Once hatchery reared lake sturgeon reach a minimum of six inches in total length, they are sampled, marked by scute removal, and distributed.

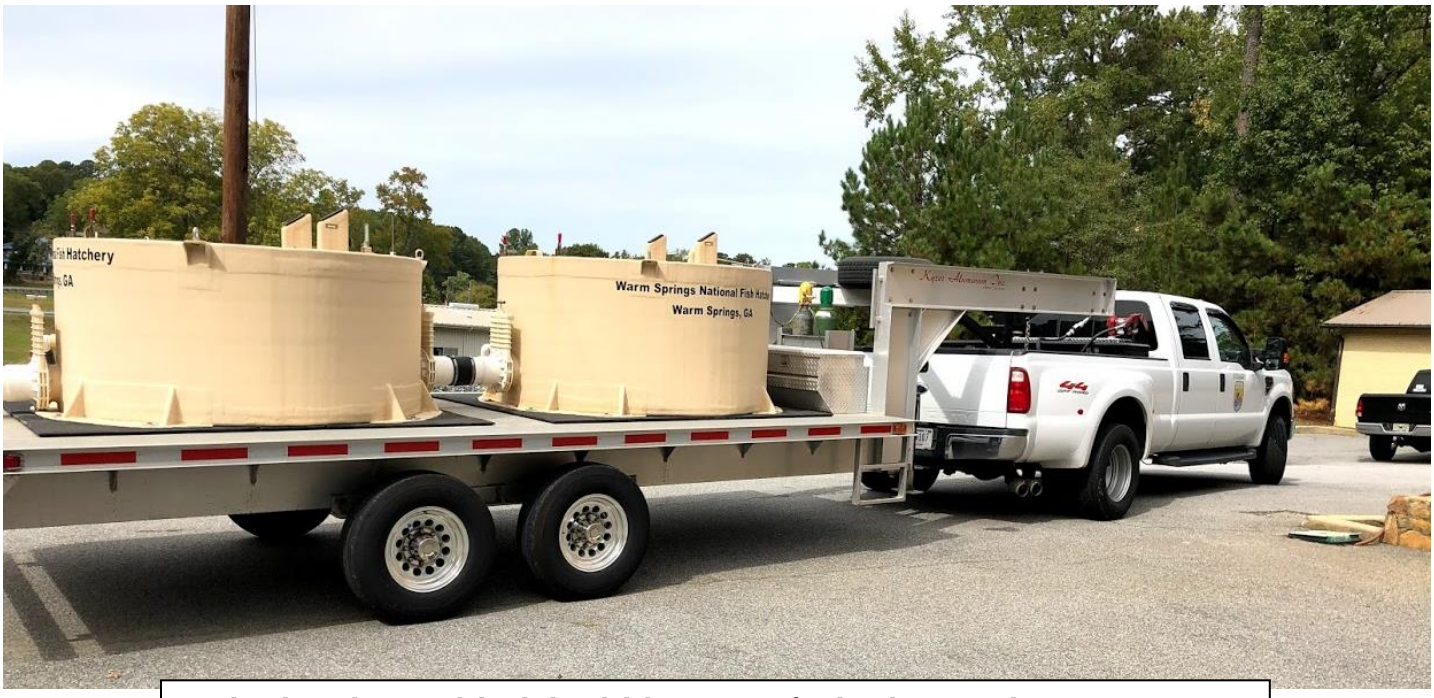


(From left to right) Ian Paige, Josh Simmons and Chad Shirey removing scutes from anaesthetized lake sturgeon before distribution to the Tennessee River. Credit: Jessica Radich/USFWS

Staff distributed the last of our 2019 year-class lake sturgeon October 17, 2019. Chad Shirey distributed 2,165 lake sturgeon to locations near Knoxville, Tennessee- one on the Tennessee River and one on the Lower French Broad River. Josh Simmons distributed 1,000 lake sturgeon to the Hwy 140 boat ramp on the Oostanaula River, a tributary to the Coosa River near Rome, Georgia.

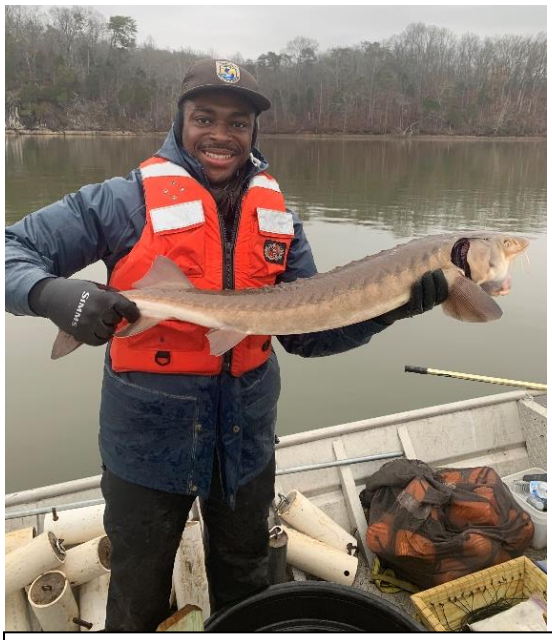
We transferred 40 of 2019 year-class lake sturgeon to Dr. Janet Genz, University of West Georgia in Carrollton, GA for a physiological study undertaken by graduate student. An additional 19 older lake sturgeon were temporarily loaned to the university as part of this study. The older lake sturgeon are scheduled for return to Warm Springs after the study

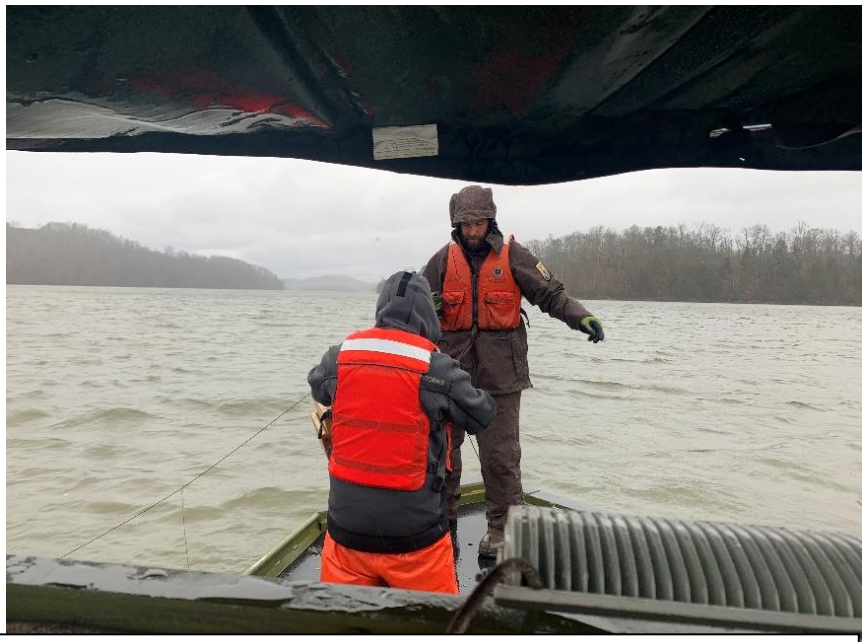
concludes. An component of the University of West Georgia study included gastric lavage sampling on a number of lake sturgeon recaptured during trotline assessment work within the Upper TN River basin during December 2019.



Dual tank stocking truck loaded with lake sturgeon for distribution to the Tennessee River. Credit: Jessica Radich/USFWS

During the week of December 9-13, 2019, six boat crews collected habitat data and set trotlines to aid in assessing the population status of lake sturgeon within the Upper TN River basin. This yearly effort collects data useful in monitoring the effectiveness of the decades long restoration effort. Six boats supplied by WSNFH, WSFHC, Mammoth Springs, TVA, TWRA and University of Tennessee crewed with additional staff from other stations collected 87 lake sturgeon during the sampling effort. Results are evaluated during the annual Lake Sturgeon Conservation Committee meetings held at Knoxville in the following months.





Lake sturgeon monitoring efforts. From left to right: Jimmie Garth of Edenton NFH, Kevin Cheung of Orangeburg NFH, and Ian Paige of Warm Springs NFH. Credit: Chad Shirey/USFWS

Warm Springs NFH submitted a funding proposal to have an intern working under the FWS Service Directorate Resource Assistants Fellowship Program assist with lake sturgeon restoration tasks while stationed at WSNFH. The project is titled: "Analysis of Culture Protocols of Lake Sturgeon at Five Federal Hatcheries."

Date	Location	Number	Length (inches)	Weight (lbs)
October 17, 2019	Lower French Broad River, TN	1365	6.96	54.82
October 17, 2019	Riverside Landing, TN River	800	6.96	32.12
October 7, 2019	University of West Georgia (transfer)	40	4.37	0.48
Totals		**2205**		**87.42**

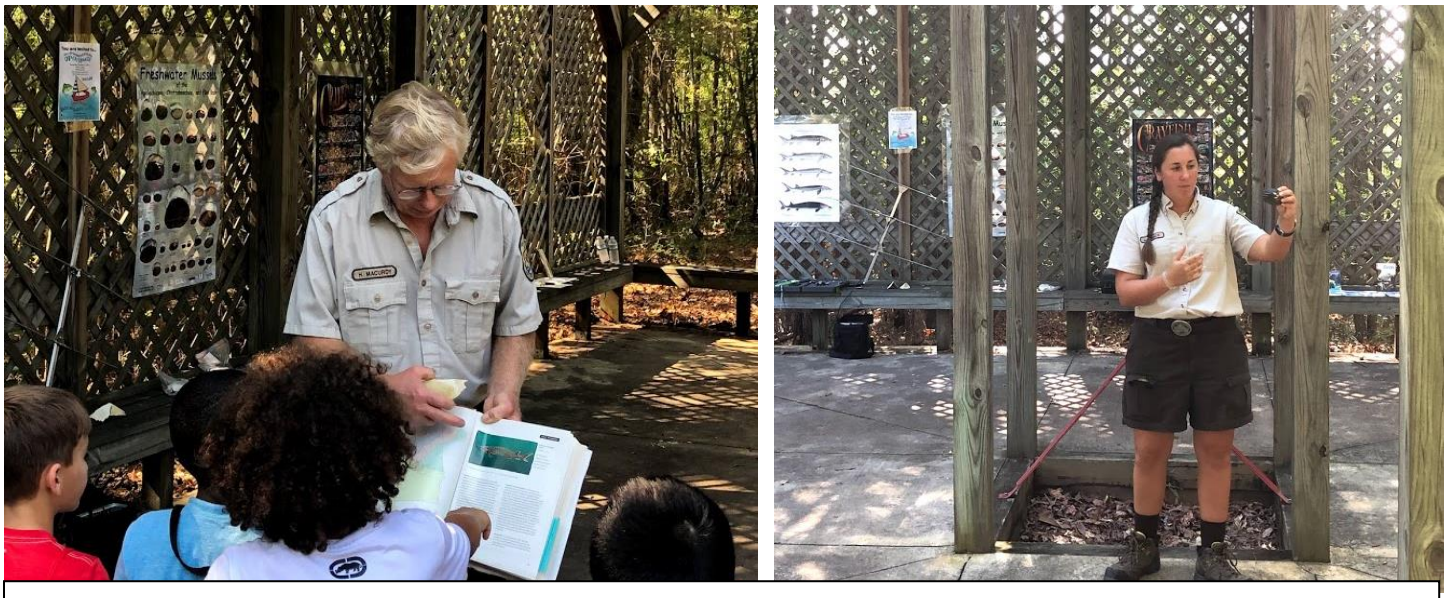
Smallmouth Bass Restoration Program in Georgia

We are into our 4th year working with Georgia and Tennessee augmenting existing populations to offset the impact of introduced spotted bass throughout the region. We supplied 90 smallmouth bass held over at Warm Springs to a regional holding facility operated by Bass Pro Shops. The fish will eventually be displayed in their stores to increase awareness for the species.

Date	Location	Number	Length (inches)	Weight (lbs)
November 25, 2019	Bass Pro Shops Leeds, AL (transfer)	90	5.35	6.94

Outreach:

October 2019 events included our annual Open House October 12, 2019 and a Wildlife Field Day event for LaGrange, GA area students on October 4th. The event was sponsored by the Roosevelt Conservation District, GA and took place at LaGrange High School.



Haile Macurdy (with sturgeon scute) and Jessica Radich (with mussels) interacting with enthusiastic young learners. Credit: Khrystylle Shepperd/ USFWS

Jessica began preparing PowerPoint presentations for use in January with an upcoming Georgia Chapter AFS meeting and a talk to the US Aquaculture Society Student Chapter at Auburn University. Her presentations provide an overview of priority programs currently underway at WSNFH.

Staff submitted a number of photos for regional outreach use and provided visitation information to individuals interested in touring / visiting WSNFH.

Friends of Warm Springs National Fish Hatchery members and volunteers assisted with our Open House on October 12th. The open house provided area residents and visitors an opportunity to interact with staff from the programs located at Warm Springs. Our Friends group members and volunteers provided fantastic assistance with this activity.

From left to right: Volunteers Olivia Shirey, Benny and Marsha Maynard, and Elena Borisova-Macurdy working activity and food booths during the annual Open House. Credit: Jessica Radich/USFWS

General & Maintenance:

Staff continued improving the Reptile and Amphibian Culture building adding spring water supplies, heating and air conditioning capabilities, heavy-duty shelving, and improved drainage around the building.

Steve Denbow, Project Architect / Div. of Engineering for the region conducted a site visit on Oct. 24th ahead of the upcoming demolition and reconstruction project for a new shop building at WSNFH. Staff submitted a Statement of Work for the project in December for the project.

Haile participated in an initial review of highway route designation numbers for the station October 24th. The review occurs on a 5-year cycle. Walter Bolton and Peter Oomczik participated in the conference call.

An administrative support assistant position was opened Oct. 23rd for a position at WSNFH and remained open through the quarter.

Staff completed private pesticide applicators licenses in October and took online diversity training as new classes became available in October.

Staff contributed canned goods to the Feds Feed Families regional initiative.

Submitted 2019 Solid Waste and Chemicals Management online responses for programs at Warm Springs Dec. 3rd.

Submitted 2019 pesticide usage data for WSNFH and pesticide use proposals (PUP's) for 2020 with updated Section 7 permits in December.

U.S. Fish & Wildlife Service
Warm Springs National Fish Hatchery 5308 Spring Street
Warm Springs, GA 31830
706-655-3382 Fax 706-655-9034
http://www.fws.gov/warmsprings/FishHatchery

FISH & AQUATIC CONSERVATION
SOUTHEAST REGION